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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,565	02/19/2004	Andreas Weber	15436.212.1	5154
22913	7590	12/14/2006	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/782,565

Applicant(s)

WEBER, ANDREAS

Examiner

Agustin Bello

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-17 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-17 and 24-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims 13-17 is withdrawn in view of the newly discovered reference(s) to Woktunik. Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-17 and 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woktunik (U.S. Patent No. 6,211,978) in view of Hoag (U.S. Patent No. 5,712,936).

Regarding claims 13 and 15, Woktunik teaches a first bi-directional communications module (e.g. all elements including and to the left of reference numeral 14 Figure 1), comprising: a first bi-directional transceiver (reference numerals 4, 44 in Figure 1), the first bi-directional transceiver comprising: a first transmitter (reference numeral 4 in Figure 1) configured for transmitting data along a first wavelength channel (e.g. 1.3  $\mu\text{m}$  in Figure 1); and a first receiver (reference numeral 44 in Figure 1) configured for receiving data along a second wavelength channel (e.g. 1.5  $\mu\text{m}$  in Figure 1); and a second bi-directional transceiver (reference numerals 50, 84 in Figure 1), the second bi-directional transceiver comprising: a second transmitter (reference numeral 50 in Figure 1) configured for transmitting data along the second wavelength channel (e.g. 1.5  $\mu\text{m}$  in Figure 1); a second receiver (reference numeral 84 in Figure 1) configured for receiving data along the first wavelength channel (e.g. 1.3  $\mu\text{m}$  in

Art Unit: 2613

Figure 1); and a second bi-directional communications module (e.g. all elements including and to the right of reference numeral 20 Figure 1), comprising: a third bi-directional transceiver (reference numeral 68, 74 in Figure 1), the third bi-directional transceiver comprising: a third transmitter (reference numeral 74 in Figure 12) configured for transmitting data along a first wavelength channel (e.g. 1.3  $\mu\text{m}$  in Figure 1) and a third receiver (reference numeral 68 in Figure 1) configured for receiving data along a second wavelength channel (e.g. 1.5  $\mu\text{m}$  in Figure 1); and a fourth bi-directional transceiver (reference numerals 34, 28 in Figure 1), the fourth bi-directional transceiver comprising: a fourth transmitter (reference numeral 34 in Figure 1) configured for transmitting data along the second wavelength channel (e.g. 1.5  $\mu\text{m}$  in Figure 1); a fourth receiver (reference numeral 28 in Figure 1) configured for receiving data along the first wavelength channel (e.g. 1.3  $\mu\text{m}$  in Figure 1); and a first optical fiber (reference numeral 18 in Figure 1) in optical communication with each of the first transceiver and the fourth transceiver. Woktunik differs from the claimed invention in that Woktunik fails to specifically teach a second optical fiber in optical communication with each of the second transceiver and the third transceiver. However, Woktunik discloses that although a single fiber (reference numeral 18 in Figure 1) is shown as the communication medium, a fiber optical cable having multiple fibers may be used (column 8 lines 45-47), thereby suggesting a second optical fiber in optical communication with each of the second transceiver and the third transceiver. Furthermore, Hoag specifically teaches the use of a first and a second optical fiber to connect transceivers. One skilled in the art would have been motivated to include a second optical fiber in optical communication with each of the second transceiver and the third transceiver in order to increase the number of wavelengths that can be used.

Art Unit: 2613

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include a second optical fiber in optical communication with each of the second transceiver and the third transceiver.

Regarding claims 14, 24, and 30, Woktunik, in a different embodiment (Figure 4), teaches that the first bi-directional transceiver further comprises a first beam splitter (reference numeral 14 in Figure 4) for reflecting only one of the first or second wavelength channels while permitting passage therethrough of the non-reflected wavelength channel; and the second bi-directional transceiver further comprises a second beam splitter (reference numeral 88 in Figure 4) for reflecting only one of the first or second wavelength channels while permitting passage therethrough of the non-reflected wavelength channel. One skilled in the art would have been motivated to employ the dual splitter concept in order to reduce the number of WDM components (column 5 lines 31-45 of Woktunik). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to follow the dual splitter concept shown in Figure 4.

Regarding claims 16 and 25, the combination of Woktunik and Hoag differs from the claimed invention in that it fail to specifically teach that the module is compatible with small form factor pluggable (SFP) standards. However, the small form factor pluggable (SFP) standard is well known in the art. One skilled in the art would have been motivated to craft the modules of Woktunik to be compatible with small form factor pluggable (SFP) standards in order to reduce the overall footprint go the module, thus conserving space. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to craft the module of Woktunik to be compatible with small form factor pluggable (SFP) standards.

Art Unit: 2613

Regarding claims 17 and 27, Woktunik teaches that the first wavelength channel (e.g. 1.3  $\mu\text{m}$  in Figure 1) and the second wavelength channel (e.g. 1.5  $\mu\text{m}$  in Figure 1) are of sufficiently different wavelengths to prevent receivers in each optical module from experiencing optical crosstalk due to internal reflection from the outgoing optical signals.

Regarding claims 26 and 28, the combination of Woktunik and Hoag teaches the use of a laser (reference numeral 4, 50, 74, 34 in Figure 1), but differs from the claimed invention in that it fails to specifically teach that the laser is selected from a group consisting of a distributed feedback laser and a Fabry-Perot laser. However, both of these lasers are very well known in the art and readily available. One skilled in the art would have been motivated to select the laser from the group claimed since these types of laser are readily available and relatively inexpensive. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to select the laser from a group consisting of a distributed feedback laser and a Fabry-Perot laser.

Regarding claim 29, Woktunik teaches first (reference numeral 14 in Figure 1) and second duplex (reference numeral 20 in Figure 1) connectors that are configured to mate with connectors affixed to the first optical fiber and the second optical fiber.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Agustin Bello  
Primary Examiner  
Art Unit 2613

AB